



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,281	03/30/2004	David Thomas Ryan	138821-1/YOD GERD:0093	4529
7590 07/28/2005			EXAMINER	
Patrick S. Yoder FLETCHER YODER P.O. Box 692289 Houston, TX 77269-2289			PHAM, LEDA T	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No. 10/813,281	Applicant(s) RYAN ET AL.	
	Examiner Leda T. Pham	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,11,12,15 and 17-30 is/are rejected.
- 7) ☒ Claim(s) 3,4,9,10,13,14 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/30/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1 – 2, 5 – 7, 11 – 12, 17 – 18, 19 – 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Gold (U.S. Patent No 6,828,919 B1).

Referring to claim 1, Gold teaches a rotating machine (figure 1), comprising:

a superconductive coil (102) disposed within a rotor; and

a temperature sensor operable to provide a signal representative of superconductive coil temperature (the sensors detect temperature sensing to the controller telemetry encode/decode 130, 134, figure 1, lines 23 –25 column 7).

Referring to claim 2, Gold teaches the rotating machine comprising a control system (130) communicatively coupled to the temperature sensor and operable to reduce electric current

Art Unit: 2834

in the superconductive coil (by MOSFET devices 120, 122) when a signal representative of a defined superconductive coil temperature is received from the temperature sensor.

Referring to claim 5, Gold teaches the rotating machine wherein the temperature sensor transmits a signal representative of the temperature of the superconductive coil to the control system via telemetry (figure 1, 130, 134).

Referring to claim 6, Gold teaches the rotating machine comprising a resistor (140), wherein the control system (120, 122) couples the resistor in series with the superconductive coil (102) to discharge the magnetic energy stored in the coil when the signal representative of a defined superconductive coil temperature is received from the temperature sensor detected.

Referring to claim 7, Gold teaches the rotating machine wherein the control system is operable to compensate for magneto-resistive effects produced in the temperature sensor by the magnetic field produced by the superconductive coil (102).

Referring to claim 11, Gold teaches a quench monitoring and control system for a superconductive coil, the system comprising:

temperature sensor (sensors) operable to provide a signal representative of superconductive coil temperature; and

a control system (130, 134) coupled to the temperature sensor and operable to reduce electric current (via MOSFET 120, 122) in the superconductive coil when a signal representative of a defined superconductive coil temperature is received from the temperature sensor.

Referring to claim 12, Gold teaches the system wherein the superconductive coil is disposed within a rotor core (lines 15 – 19, column 4).

Art Unit: 2834

Referring to claim 17, Gold teaches the system wherein the temperature sensor transmits a signal representative of the temperature of the coil to the control system via radio telemetry (figure 1).

Referring to claim 18, Gold teaches the system wherein the control system (130, 134) activates a circuit (101) to reduce the current in the superconductive coil when the signal representative of a defined temperature is received from the temperature sensor.

With regard to claims 19 – 30, the method of manufacturing and operating the rotating machine having a superconductive coil would be inherent and obvious since the prior art references meet the structural limitations of the claimed device. Therefore, this limitation has not been given patentable weight.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gold in view of Perkins et al. (U.S. Patent No. 6,642,682 B1).

Referring to claims 8 and 15, Gold teaches the claimed invention, except for the added limitation of the temperature sensor is a resistance temperature detector.

Perkins teaches in his invention a circuit for a motor-generator device having temperature sensor is a resistance temperature detector for measuring the rotor temperature.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a resistance temperature detector as a temperature sensor as taught by Perkins. Doing so to detect the temperature of the rotor in a motor/generator device.

Allowable Subject Matter

5. Claims 3 –4, 9 – 10, 13 – 14, and 16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is an examiner's statement of reasons for allowance: the record of prior art does not show a rotating machine having superconductive coil with a thermally conductive sheet disposed around the superconductive coil and the temperature sensor is disposed between the thermally conductive sheet and the superconductive coil, and the resistance temperature detector with a wire disposed adjacent to an expected region of the lowest critical current in the superconductive coil.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (571) 272-2032. The examiner can normally be reached on M-F (8:30-6:00) first Friday Off.

Art Unit: 2834

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leda T. Pham
Examiner
Art Unit 2834



LTP

July 21, 2005



DARREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800